

FIG.1

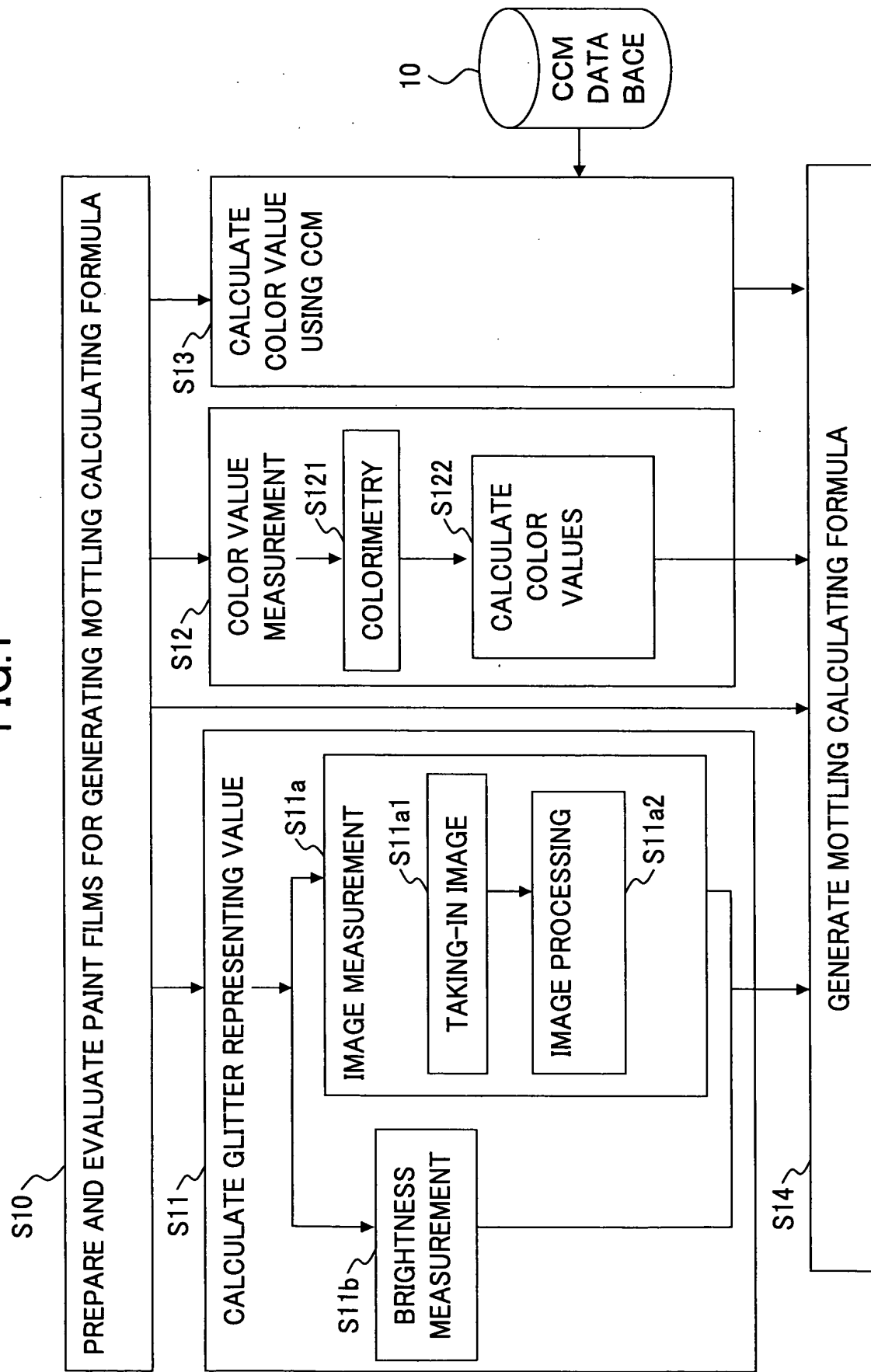


FIG.2

CALCULATION OF HUE ANGLE

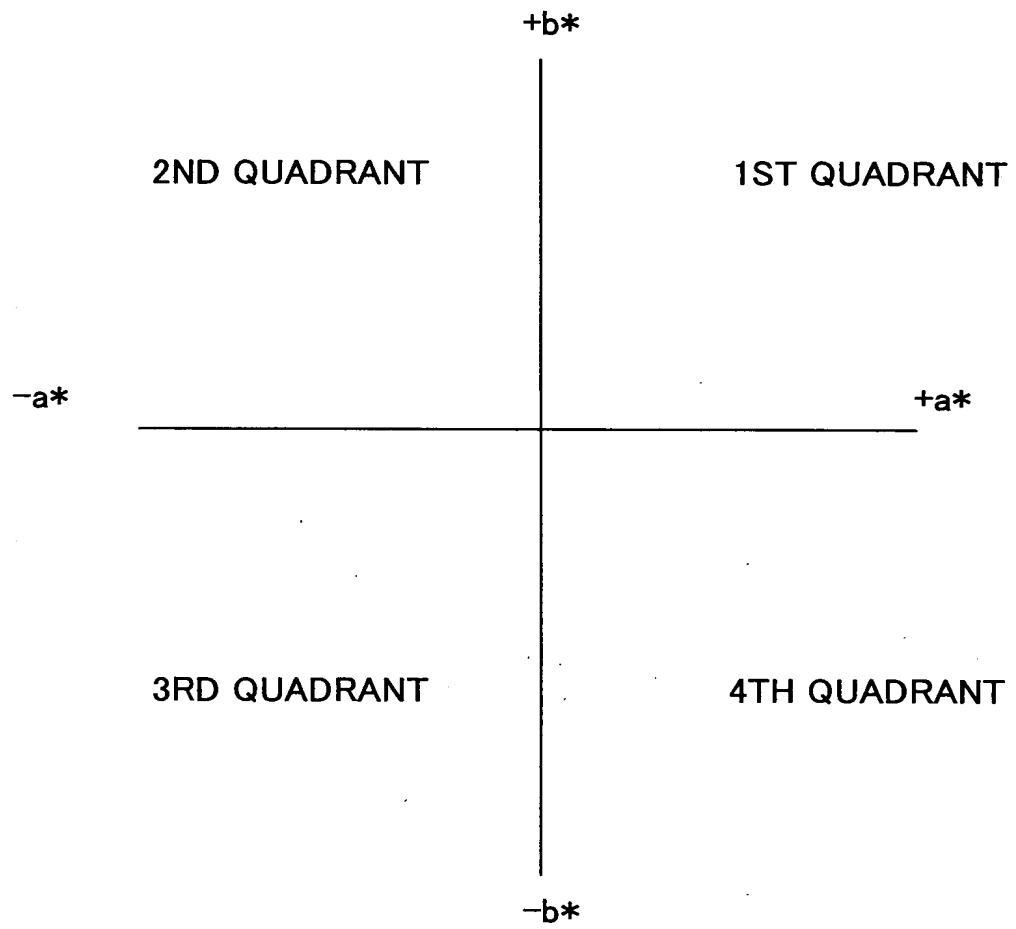


FIG.3

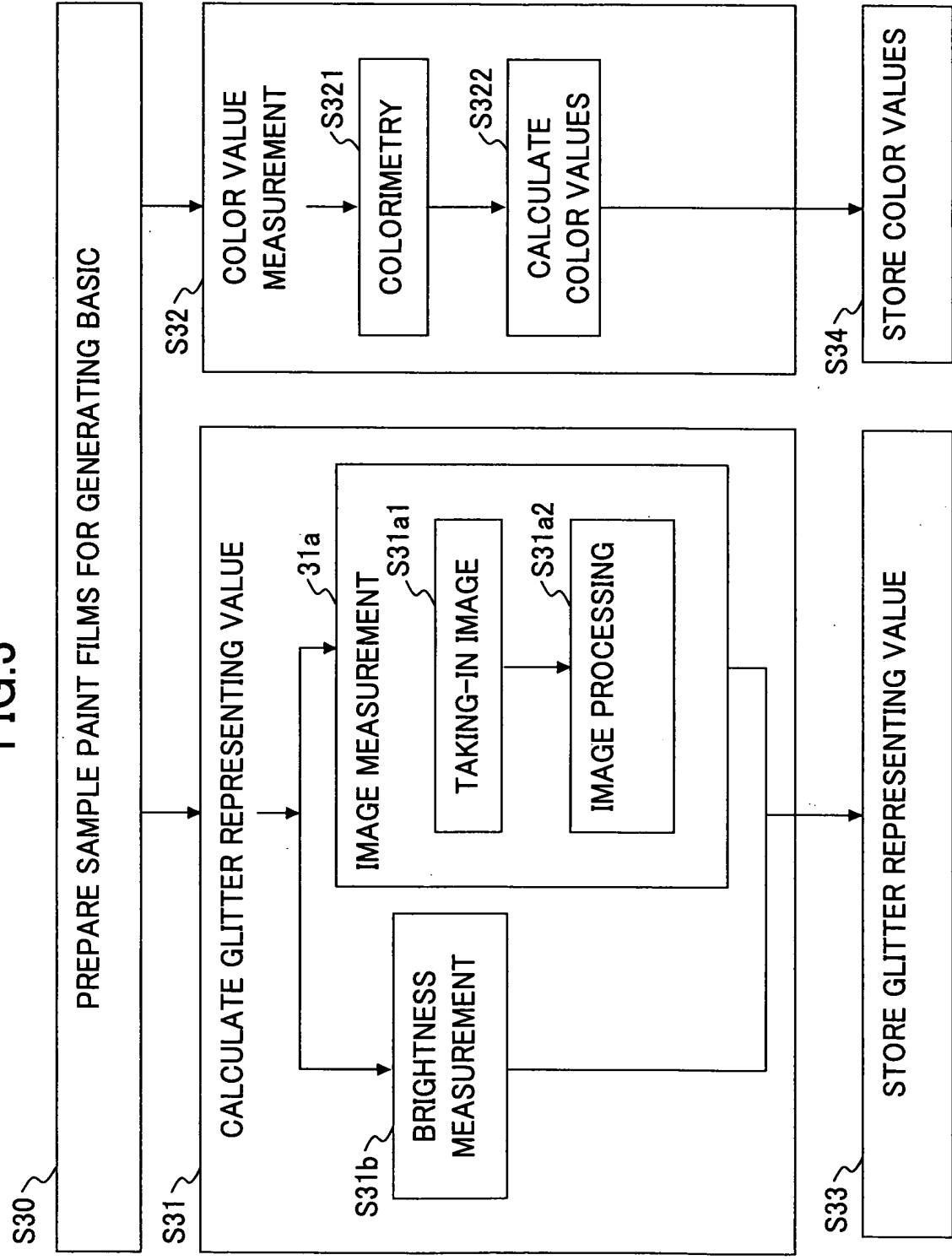


FIG.4

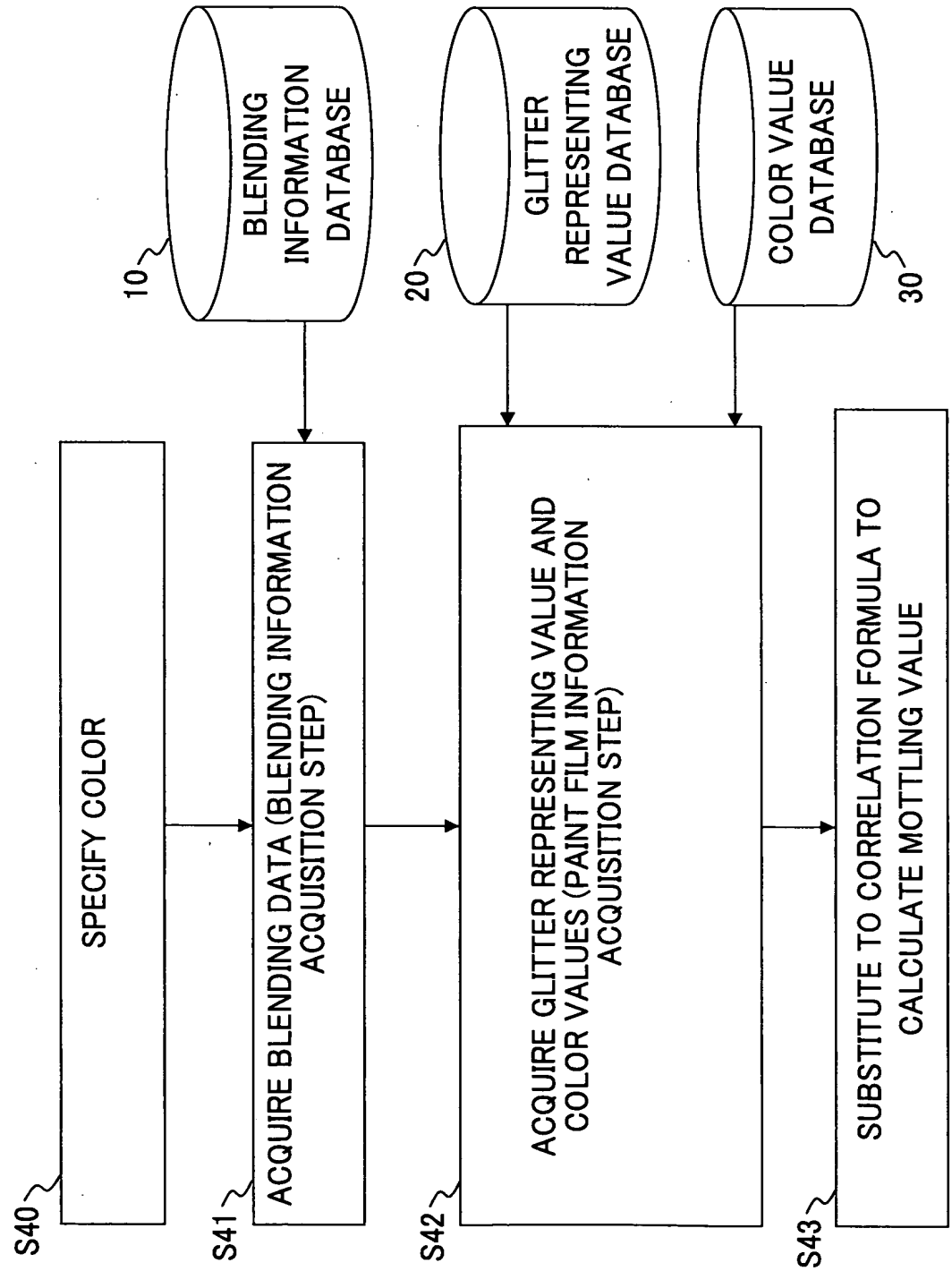


FIG.5

	AO20001	AO20002	AO20005	AO20007	AO20008	AO20009	AO20010
ALUMINUM FLAKE PIGMENT A			5.7				
ALUMINUM FLAKE PIGMENT B		3.2		17.0	17.0	14.3	14.3
ALUMINUM FLAKE PIGMENT C	5.5	7.7					
ALUMINUM FLAKE PIGMENT D			7.2				
ALUMINUM FLAKE PIGMENT E	5.5						
CARBON BLACK PIGMENT A	0.01	0.01		0.3	0.3	0.5	0.5
ORGANIC REDDISH PIGMENT A	0.02	0.02					
INORGANIC REDDISH PIGMENT A	0.3	0.3	1.4				
ORGANIC YELLOWISH PIGMENT A			0.05				
ORGANIC YELLOWISH PIGMENT B			0.6				
ORGANIC BLuish PIGMENT A				0.3	0.3	3.0	3.0
TOTAL PWC	11.33	11.23	14.95	17.6	17.6	17.8	17.8

FIG.6

PAINT PROCESS: BASE COATING TWICE WITH 90 SECOND INTERVALA

PAINTING MACHINE	ABB 1N1072F
PAINT DISCHARGE RATE	220 cc/min
SHAPING AIR	520 Nm ³ /min
ROTATION	25000 RPM
PAINTING MACHINE LINEAR SPEED	900 mm/min
DISTANCE TO PAINTING OBJECT	300 mm

MEASURED VALUE AND CALCULATED VALUE

PAINTED BOARD ID	AO20068	AO20069	AO20070	AO20071	AO20072	AO20073	AO20074	AO20075	AO20076	AO20077	AO20078
	GLITTER REPRESENTING VALUE										
VISUAL MOTTLING	126	138	211	97	113	135	175	194	182	176	181
15° L*	2.5	2.5	2.25	2.25	2.5	2.75	2.5	2.5	2.25	2.25	2.25
15° a*	128.76	128.16	118.30	50.87	86.92	133.68	120.40	116.60	117.14	115.85	117.36
15° b*	-1.87	-1.71	-8.64	-3.09	-0.49	-1.82	-8.11	-8.73	-8.82	-8.66	-9.77
25° L*	4.96	4.81	-15.05	-1.82	3.51	5.80	-10.99	-11.27	-11.85	-14.56	-16.18
25° a*	105.01	102.45	88.20	37.26	51.30	105.66	95.01	91.36	93.22	91.37	90.58
25° b*	-2.03	-2.04	-6.79	-3.19	-0.60	-2.00	-6.99	-7.36	-5.95	-7.45	-7.99
45° L*	4.61	4.61	-11.60	-1.10	3.19	4.86	-8.95	-9.25	-9.86	-12.09	-12.87
45° a*	63.90	60.62	44.50	16.53	27.82	61.85	25.49	50.66	52.89	51.45	50.08
45° b*	-1.49	-1.46	-3.05	-1.48	-0.21	-1.37	-4.02	-4.21	-3.35	-4.25	-4.20
75° L*	2.98	2.54	-8.02	-2.34	1.61	2.71	-6.82	-7.26	-7.54	-8.96	-9.38
75° a*	39.96	37.64	22.97	6.22	12.44	37.50	28.29	27.52	28.47	27.60	26.16
75° b*	-1.81	-1.89	-2.08	-0.50	0.10	-1.71	-3.14	-3.56	-2.59	-3.10	-2.84
110° L*	3.01	2.31	-8.27	-2.41	0.47	2.84	-7.05	-7.66	-7.86	-8.77	-9.01
110° a*	32.92	30.82	16.35	3.57	6.50	30.95	20.41	20.03	20.22	19.75	18.68
110° b*	-2.35	-2.38	-2.14	-0.02	0.12	-2.20	-3.40	-3.84	-2.68	-3.06	-2.83
15° C VALUE	3.85	3.31	-8.77	-1.89	0.47	4.12	-7.55	-8.15	-8.27	-9.19	-9.36
25° C VALUE	5.30	5.10	17.35	3.59	3.54	6.08	13.66	14.26	13.67	16.94	18.90
45° C VALUE	5.04	5.04	13.44	3.37	3.25	5.26	11.36	11.82	11.52	14.20	15.15
75° C VALUE	3.33	2.93	8.58	2.77	1.62	3.04	7.92	8.39	8.25	9.92	10.28
110° C VALUE	3.51	2.98	8.53	2.46	0.48	3.32	7.72	8.45	8.28	9.30	9.45
15° -100° C VALUE	4.51	4.08	9.03	1.89	0.49	4.67	8.28	9.01	8.69	9.69	9.78
15° HUE ANGLE	0.79	1.03	8.33	1.70	3.06	1.41	5.38	5.25	4.98	7.25	9.12
25° HUE ANGLE	110.66	109.57	240.14	210.50	97.95	107.42	233.57	232.24	240.08	239.26	238.88
45° HUE ANGLE	113.77	113.87	239.66	199.03	100.65	112.37	232.01	231.49	238.89	238.36	238.17
75° HUE ANGLE	116.57	119.89	249.18	237.69	97.43	116.82	239.48	239.89	246.04	244.62	245.88
110° HUE ANGLE	84.78	85.71	116.83	124.02	85.86	84.76	109.06	110.93	111.24	113.94	115.75
15° -100° L* VALUE	121.40	125.72	256.29	269.39	75.68	118.10	245.76	244.77	252.04	251.58	253.18
15° -100° a* VALUE	-10.74	-16.15	-16.15	-58.90	22.27	-10.68	-12.18	-12.53	-11.97	-12.33	-14.30
15° -100° b* VALUE	95.84	97.34	101.95	47.3	60.42	102.73	99.99	96.57	96.92	96.1	98.68

FIG.8

QSAR ANALYSIS

	r^2 (CONTRIBUTION RATIO)	r (CORRELATION COEFFICIENT)	CORRELATION FORMULA
1	0.774	0.885	$3.35962+0.000474 \times X1^2+0.11361 \times \langle 2.25-X1 \rangle^2+0.057642 \times \langle X2^{\circ}-97 \rangle-0.064096 \times \langle X2^{\circ}-90 \rangle-0.006376 \times \langle 103.37-X3 \rangle+0.000767 \times \langle 52.36-X4 \rangle^2$
2	0.774	0.885	$3.36022+0.000476 \times X1^2+0.000727 \times \langle 53.49-X4 \rangle^2+0.113511 \times \langle 2.25-X1 \rangle^2+0.057554 \times \langle X2^{\circ}-97 \rangle-0.064014 \times \langle X2^{\circ}-90 \rangle-0.006606 \times \langle 103.37-X3 \rangle$
3	0.774	0.885	$3.2996+0.013184 \times X1-0.007534 \times \langle 95.09-X3 \rangle+0.000785 \times \langle 52.36-X4 \rangle^2+0.130979 \times \langle 2.25-X1 \rangle^2-0.065116 \times \langle X2^{\circ}-90 \rangle+0.058619 \times \langle X2^{\circ}-97 \rangle$
4	0.773	0.885	$3.34463-0.00732 \times \langle 95.09-X3 \rangle+0.0008 \times \langle 52.36-X4 \rangle^2+0.08307 \times \langle 2.54-X1 \rangle^2+0.000443 \times X1^2+0.077622 \times \langle X2^{\circ}-95 \rangle-0.08417 \times \langle X2^{\circ}-90 \rangle$
5	0.773	0.885	$3.30917+0.08094 \times \langle X2^{\circ}-95 \rangle+0.012971 \times X1-0.007545 \times \langle 95.09-X3 \rangle+0.000773 \times \langle 52.36-X4 \rangle^2+0.128525 \times \langle 2.25-X1 \rangle^2-0.087593 \times \langle X2^{\circ}-90 \rangle$
6	0.770	0.883	$3.34619-0.007719 \times \langle 95.09-X3 \rangle+0.041874 \times \langle X2^{\circ}-97 \rangle-0.048411 \times \langle X2^{\circ}-88 \rangle+0.000448 \times X1^2+0.08304 \times \langle 2.54-X1 \rangle^2+0.000771 \times \langle 53.49-X4 \rangle^2$
7	0.770	0.883	$3.38101+0.000461 \times X1^2-0.053049 \times \langle X2^{\circ}-88 \rangle-0.008198 \times \langle 95.47-X3 \rangle+0.000655 \times \langle 59.63-X3 \rangle^2+0.139831 \times \langle 2.05-X1 \rangle^2+0.04662 \times \langle X2^{\circ}-97 \rangle$
8	0.770	0.883	$3.35299+0.000801 \times \langle 52.36-X4 \rangle^2-0.007387 \times \langle 95.09-X3 \rangle+0.042493 \times \langle X2^{\circ}-97 \rangle-0.049023 \times \langle X2^{\circ}-88 \rangle+0.000439 \times X1^2+0.111768 \times \langle 2.25-X1 \rangle^2$
9	0.770	0.883	$3.35271+0.000705 \times \langle 55.45-X4 \rangle^2-0.008205 \times \langle 95.09-X3 \rangle+0.042084 \times \langle X2^{\circ}-97 \rangle-0.048633 \times \langle X2^{\circ}-88 \rangle+0.000441 \times X1^2+0.111394 \times \langle 2.25-X1 \rangle^2$
10	0.774	0.885	$3.34303+0.000757 \times \langle 53.49-X4 \rangle^2+0.117817 \times \langle 2.25-X1 \rangle^2+0.058131 \times \langle X2^{\circ}-97 \rangle-0.064606 \times \langle X2^{\circ}-90 \rangle-0.007873 \times \langle 95.09-X3 \rangle+0.013639 \times \langle X1^{\circ}-3.99 \rangle$

45° CHROMA SATURATION	X1
GLITTER REPRESENTING VALUE	X2
15° L*	X3
BRIGHTNESS FF	X4
HUE ANGLE FF	X5
CHROMA SATURATION FF	X6
45° HUE ANGLE	X7
VISUAL MOTTILING VALUE	Y

FIG.9

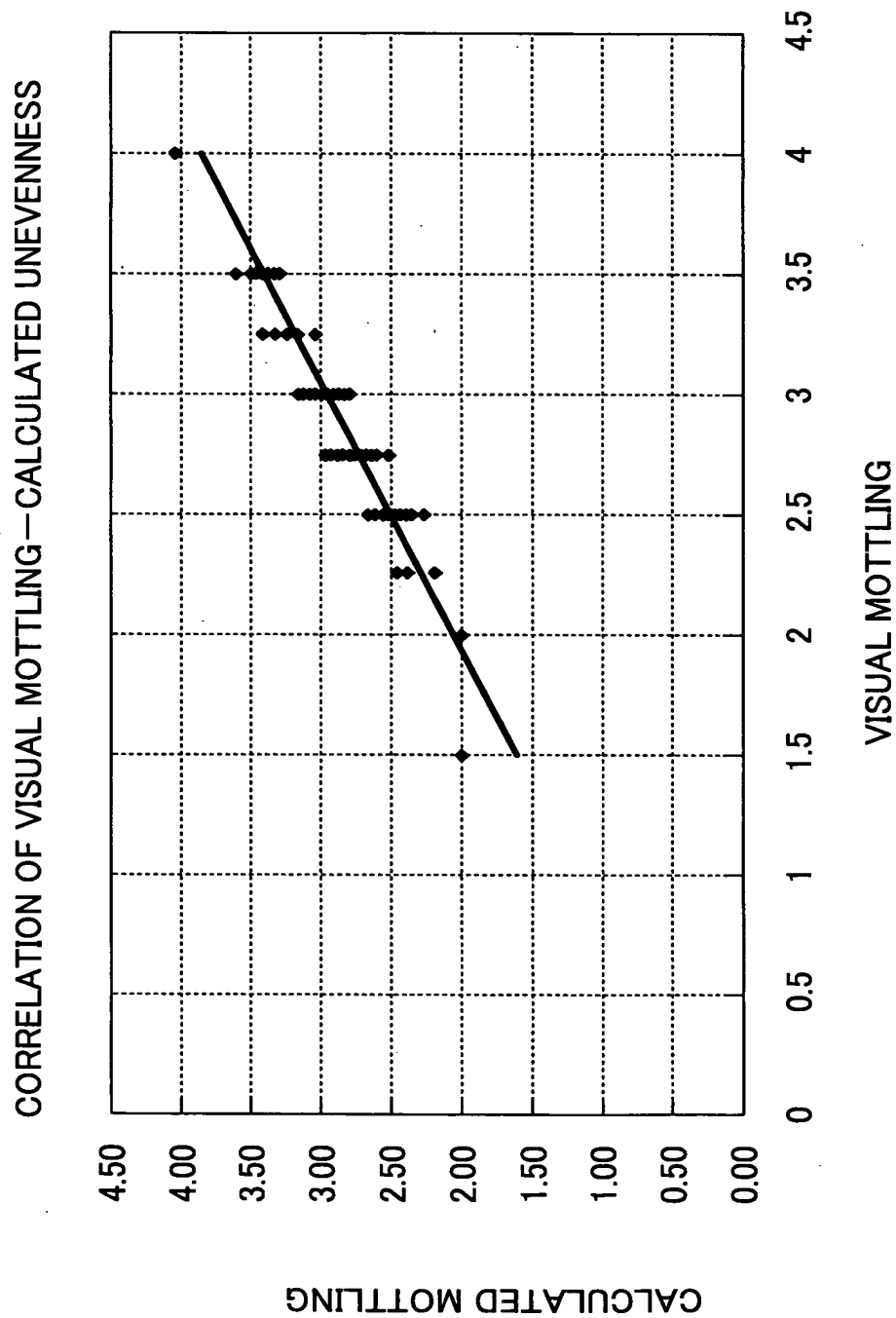


FIG.10

